Channel Islands National Park seeks expert recommendations to enhance monitoring programs

By Kathryn McEachern

Channel Islands National Park (California) was one of the first four parks to obtain funding to create a Prototype Ecological Monitoring Program. Prototype programs serve as "centers of excellence," conducting more in-depth monitoring and information gathering to benefit all of the approximately 270 parks with significant natural resources. Important elements of prototype programs are the evaluation of monitoring efforts and the development of better sampling and assessment methods for parks in each of 10 major biomes. With this in mind the U.S. Geological Survey–Biological Resources Division (USGS-BRD) in 2000 initiated an expert review of the vegetation and land bird monitoring programs of Channel Islands National Park. Suggestions from the review were implemented in 2003.

The USGS-BRD Channel Islands Field Station convened a panel of experts to review more than a decade's worth of data and the programs' monitoring protocols in 2000. The panel provided comments and recommendations to the National Park Service that are designed to improve the effectiveness and efficiency of the monitoring programs. Program revisions based on the findings are being designed and tested by USGS-BRD and NPS scientists. For example, transect sample efforts, which have been extensive in the past, are being strategically redesigned to free resources for other monitoring needs identified by the review, such as vegetation mapping. Similarly, the land bird monitoring program has been changed to place emphasis on analyses of bird abundance by habitat for all five of the park's islands. Another change is improvement of both monitoring programs' databases to enable better integration of information across habitats and to streamline annual report preparation. Improving and deepening the information available to park managers allow them to better respond to the changes affecting park natural resources. ■

kathryn_mceachern@usgs.gov
Senior Plant Ecologist, U.S. Geological Survey–Biological Resources Division; Channel Islands Field Station, California

Resource managers monitor a coastal scrub plant community transect at San Miguel Island, Channel Islands National Park. In 2003 the National Park Service began to implement recommendations from a scientific review of the park's vegetation and land bird monitoring programs.

Repeating history: Vertebrate inventory in Yosemite National Park

By Leslie S. Chow

Jim Patton, project leader and curator of mammals at the UC Berkeley Museum of Vertebrate Zoology, weighs a mouse (*Peromyscus maniculatus*) live-trapped from the Merced Grove of giant sequoias.

HOW OFTEN do we get to repeat important historic moments? In the summer of 2003, scientists from the University of California–Berkeley Museum of Vertebrate Zoology and the U.S. Geological Survey (USGS) had the opportunity to repeat some of the historical vertebrate surveys conducted by Joseph Grinnell in Yosemite National Park. The first broad survey of Yosemite National Park wildlife in more than 80 years was made possible through a cooperative effort with both organizations and the National Park Service's Inventory and Monitoring Program.

Joseph Grinnell and the university's Museum of Vertebrate Zoology conducted vertebrate surveys from 1914 to 1920 along a transect that ran from the Central Valley of California, through Yosemite National Park, to the Great Basin Desert near Mono Lake. The Grinnell Survey collected more than 4,000 specimens, recorded 2,001 pages of handwritten field notes, and took nearly 1,400 photographs. The resulting report, "Animal Life in the Yosemite," remains the most comprehensive documentation of Yosemite's vertebrates.

In 2003, scientists revisited five of the original Grinnell sites in the park. Preliminary results suggest that the distribution of several species has changed. One of the most common shrew species recorded by Grinnell in Yosemite Valley appears to have been replaced by another shrew during the intervening years. Golden-mantled ground squirrels no longer appear to inhabit the Merced Grove of giant sequoias as they did in Grinnell's time, although they were found at higher elevations. And two chipmunk species thought to be relatively common have yet to be found. Whereas some species may have been displaced, others have appeared in surprising locations. The western harvest mouse (*Reithrodontomys megalotis*), not previously known in the park, was caught in Yosemite Valley, and a low-elevation woodland mouse (*Peromyscus truei*) was found at Mount Lyell (10,600 ft, 3,233 m) and Glen Aulin (7,800 ft, 2,379 m).

Although it is not yet clear why these changes have happened, possible factors include warmer average temperatures and the increased density of vegetation from fire suppression. To better understand the changes occurring in Yosemite National Park, museum staff and USGS biologists will continue the survey for the next two years thanks to a grant from The Yosemite Fund. ■

les_chow@usgs.gov
Research Wildlife Biologist, USGS-WERC Yosemite Field Station, California